AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Withdrawn) Apparatus for detecting target nucleic acid in a sample, comprising a substrate formed with at least one reaction cell, wherein said reaction cell includes an attachment surface formed of a dielectric material for the attachment of nucleic acid capture probes, and wherein a metal electrode is provided in direct contact with said dielectric material.

2. (Withdrawn) Apparatus as claimed in claim 1 wherein said electrode is in contact with a side of said dielectric material opposite from said attachment surface.

3. (Withdrawn) Apparatus as claimed in claim 1 wherein said dielectric material is an oxide.

4. (Withdrawn) Apparatus as claimed in claim 3 wherein said dielectric material is selected from the group consisting of Al_2O_3, SiO_2 and Ta_2O_5.

5. (Withdrawn) Apparatus as claimed in claim 1 wherein said electrode is formed of aluminum.

6. (Withdrawn) Apparatus as claimed in claim 1 wherein said dielectric material comprises Al_2O_3 and said electrode is formed of aluminum.

7. (Withdrawn) Apparatus as claimed in claim 1 comprising a multilayer structure comprising a first base layer, a second insulating layer formed on said base layer, a third layer formed on said insulating layer and comprising patterned conductive regions defining at least one metal electrode, and a fourth layer comprising at least one region of dielectric material, wherein each said metal electrode in said third layer is covered by a region of dielectric material in said fourth layer.

8. (Withdrawn) Apparatus as claimed in claim 6 wherein the patterned conductive regions of said third layer are separated by regions formed of dielectric material.

9. (Withdrawn) Apparatus as claimed in claim 6 wherein said regions of dielectric material in said fourth layer are separated by regions of a passivation material.

10. (Withdrawn) Apparatus as claimed in claim 8 wherein said regions of passivation material extend over the edges of said regions of dielectric material to define said reaction cells.

11. (Withdrawn) Apparatus as claimed in Claim 1 wherein said sample comprises biological substances.

12. (Withdrawn) Apparatus for detecting target biological material in a sample, comprising a substrate formed with at least one reaction cell, wherein said reaction cell includes a surface formed of a dielectric material, and wherein a metal electrode is provided in direct contact with said dielectric material.

13. (Original) A method of performing field-assisted hybridization in the detection of nucleic acid targets from a sample, comprising the steps of providing a reaction cell having an attachment surface formed of a dielectric material, providing a metal electrode in direct contact with said dielectric material, attaching nucleic acid capture probes to said attachment surface, adding the sample to said reaction cell, and providing an electrical potential to said electrode.

14. (Original) A method as claimed in claim 13 wherein said electrode is provided in contact with a surface of said dielectric opposite from said attachment surface.

15. (Original) A method as claimed in claim 13 wherein said electrical potential is a continuously applied potential.

16. (Original) A method as claimed in claim 13 wherein said electrical potential is applied as a series of pulses.

17. (Original) A method as claimed in claim 13 wherein said sample comprises biological substances.

18. (Original) A method of attracting or repelling electrically-charged entities to or from a surface of a reaction cell when performing a biological reaction, comprising the steps of providing a dielectric material as said surface, and generating an electrical field by inducing charge-separation in said dielectric material.

19. (Original) A method as claimed in claim 18 wherein charge-separation in said dielectric material is induced by placing an electrode in direct contact with said dielectric material and applying a potential to said electrode.

20. (Original) A method as claimed in claim 19 wherein a continuous potential is applied to said electrode.

21. (Original) A method as claimed in claim 19 wherein a pulsed potential is applied to said electrode.

22. (Original) A method as claimed in claim 19 wherein said electrode is placed in contact with a surface of the dielectric material opposite from the surface to which the charged entities are to be attracted to or repelled from.

23. (Original) A method of accelerating a detection process for biological molecules performed in a reaction cell, comprising the steps of providing a dielectric material as a surface of said reaction cell, and generating an electrical field by inducing charge-separation in said dielectric material.

24. (Original) A method as claimed in Claim 23 wherein the molecules are nucleic acid molecules.

25. (Withdrawn) A method of forming an array of reaction cells for performing biological analysis, comprising the steps of patterning metal electrodes on an insulating substrate, depositing regions of dielectric material on said metal electrodes, and forming a rim around the edges of upper surfaces of said regions of dielectric material so as to define said reaction cells.

26. (Withdrawn) A method as claimed in claim 25 comprising depositing a layer of metal on an insulating surface, covering a desired pattern of said metal layer with a photoresist and removing the remainder of said metal layer by an etching process, depositing a layer of said dielectric material over said patterned metal whereby said dielectric material covers said patterned metal and occupies the

areas between said patterned electrodes, depositing a passivation layer over said layer of dielectric material, pattering said passivation layer with a photoresist and removing said passivation layer to open said dielectric material where it covers said metal electrodes to define reaction said cells.

27. (New) A method as claimed in claim 13 wherein said electrode is in contact with a side of said dielectric material opposite from said attachment surface.

28. (New) A method as claimed in claim 13 wherein dielectric material is an oxide.

29. (New) A method as claimed in claim 28 wherein said dielectric material is selected from the group consisting of Al_2O_3, SiO_2 and Ta_2O_5.

30. (New) A method as claimed in claim 13 wherein said electrode is formed of aluminium.

31. (New) A method as claimed in claim 13 wherein said dielectric material comprises Al_2O_3 and said electrode is formed of aluminium.